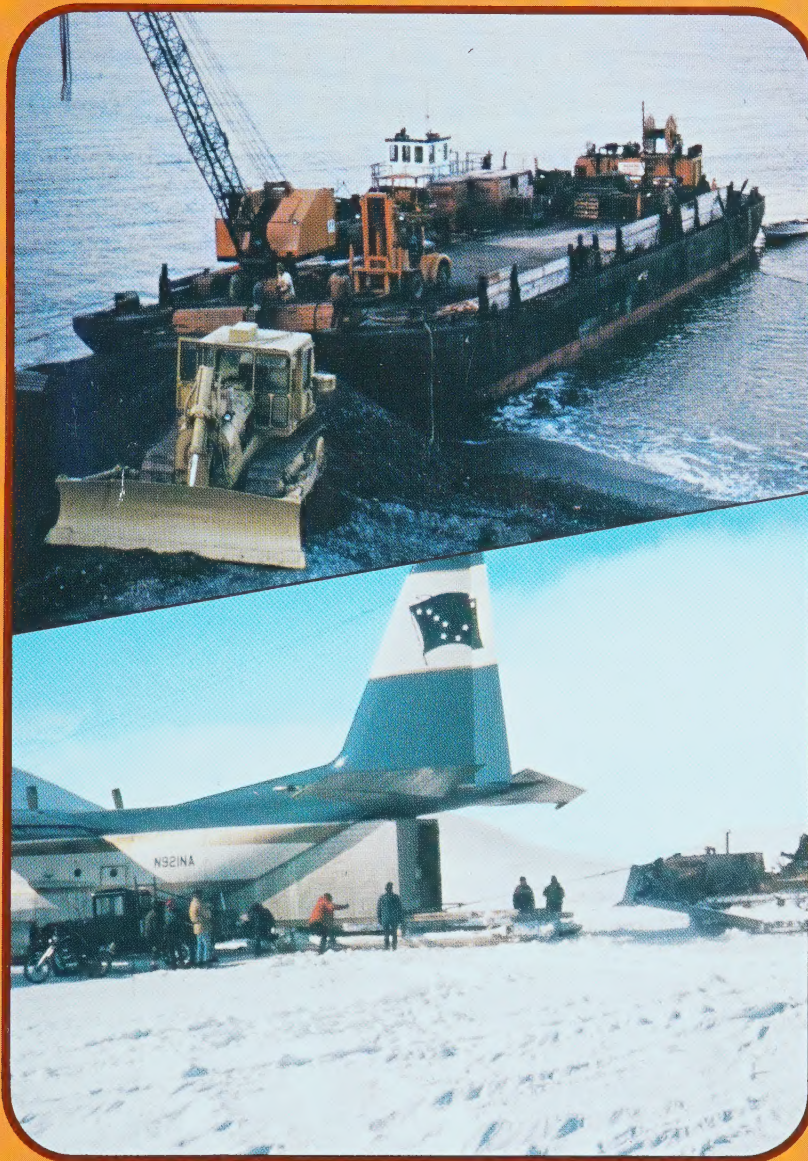


# LOST RIVER

Mining Corporation

Limited



*Annual Report 1972*





## DIRECTORS and OFFICERS

**DIRECTORS** MURRAY WATTS, Toronto, Canada  
 PEARCE WALSH, Nome, Alaska  
 R. C. SHEARDOWN, Toronto, Canada  
 H. B. MEGILL, Toronto, Canada  
 RALPH HEDLIN, Toronto, Canada

**OFFICERS** MURRAY WATTS, President  
 R. C. SHEARDOWN, Vice-President  
 P. A. PHILLIPS, Vice-President—Marketing  
 D. A. HOLMAN, Secretary-Treasurer

**REGISTRAR AND  
 TRANSFER AGENT** GUARANTY TRUST COMPANY OF CANADA,  
 Toronto, Canada

**SOLICITORS** PROUSKY, LINDZON & BIBACK,  
 Toronto, Canada

**AUDITORS** FULLER JENKS LANDAU  
 Toronto, Canada

**OFFICES** HEAD OFFICE: 420, 159 Bay Street,  
 Toronto, Canada  
 FIELD OFFICE: 800 Cordova Street,  
 Anchorage, Alaska

**SHARES LISTED** "LR", The Toronto Stock Exchange

At top left, main housing units at the mine site camp. At height of 1972 program, over 60 persons were on the project. Below, a diamond drill set-up on the No. 2 zone. Next, a DC-6 aircraft unloading at the mine site airstrip. During the exploration phase, the project relies heavily on air support, but as the construction phase begins, more emphasis on sea transport will develop. Below, field crew loading bulk sample material for shipment by barge. Bottom, a view of a drill rig being moved shows terrain of Lost River Valley.



# LOST RIVER MINING CORPORATION LIMITED



## President's Report, 1972

### TO THE SHAREHOLDERS:

Please find herewith the Annual Report of the Company, along with the Financial Statements for the fiscal period ended December 31, 1972.

Funds supplied to the Company during this period totalled \$2,957,500, bringing the total amount obtained by the Company since incorporation in early 1970 to \$5,687,505. Working capital as at April 30, 1973, was \$563,488. To date, \$5,761,517 has been expended on the project.

In addition to capital in hand, the Company earlier this year arranged credit of \$1.5 million with a Canadian chartered bank. The availability of this capital assures continuance of the Company's undertakings in the field as well as the development of advanced metallurgical, design and environmental data during the bridge financing period from the time the Final Feasibility is available with the objective of concluding senior financing.

Mr. J. F. McQuat, Vice-President of Watts, Griffis and McQuat Limited, co-ordinators of the Final Feasibility studies, summarizes the technical data developed for the Final Feasibility in this report. The summary covers the extensive detailed work carried by the Company and the more than 40 independent consultants engaged in connection with the mining, metallurgical, construction, transport and marketing aspects of the project, and also some aspects related to the City of Lost River and to the Environmental Impact Statements.

### SUMMARY RESULTS — FINAL FEASIBILITY STUDIES

The main conclusions of these studies follow. It should be noted these are based upon the fluorite-tin-tungsten deposits of the Company being operated at an initial projected rate of 4,000 tons per day, on a year-round basis. Provision is made for substantially increasing the rate of production, dependent upon what currently is a promising outlook for growth in market demands for fluorite.

1. **Proven open pit ore reserves** in the No. 1 Zone are sufficient for 20 years of production at a 4,000-ton daily operating rate.





# LOST RIVER MINING CORPORATION

## President's Report (Cont'd.):

2. **Limited diamond drilling**, sampling and geological mapping on the Nos. 2 and 4 Zones indicate the potential for further substantial ore reserves. Aside from No. 1 Zone, Zone Nos. 2, 3, 4, 5, 6 and 7 along a 4.5-mile strike length of the Rapid River geological structure ultimately could add materially to ore reserves with future exploratory drilling. All zones are within four to six miles of the Bering Sea coast.
3. **The operating costs**, based on a 4,000-ton daily rate, are estimated at \$6.90 per ton during the first five years of production.
4. **The capital costs** for all mine and mill facilities on the above basis are estimated at \$50 million, including allowances for inflation, contingencies, financing costs and preproduction interests, but not allowing for working capital.
5. **The discounted cash flow** over the first five years of production is estimated to be sufficient to return the capital invested for the mine, mill and related facilities. However, it is the usual practice to provide that such invested capital be returned in eight to ten years in order to allow for additional development, adequate working capital and possible production expansion.
6. **Extensive consumer market studies** in the United States, Japan and Europe have indicated strong long-term markets for fluorite at viable prices. Sale of a bulk tin-tungsten concentrate can be effected to smelters on a basis that provides payment for both metals.
7. **Continuing extensive metallurgical** bench scale and pilot plant testing at the Colorado School of Mines Research Institute have established 80% or better in recoveries of contained fluorite with 65% to 80% of the product in the form of acid grade (97%  $\text{CaF}_2$ ) and 20% to 35% as a high-grade metallurgical product (80%  $\text{CaF}_2$ ).
8. **Pilot plant tests** on representative bulk samples from surface, and also core from larger NQ drilling on No. 1 Zone, has provided positive grade and tonnage confirmation in that section of the open pit on No. 1 Zone that will be mined within the first ten years of production as now planned, duplicating earlier grade estimates from the smaller BQ-sized core as carried out over the entire zone.

## THE CITY OF LOST RIVER

During 1972, agreement was reached between the Company and the planned City of Lost River whereby the City will function as a free-standing community and a regional centre for the Seward Peninsula



Left, P. A. Phillips, recently appointed vice-president in charge of market development and executive assistant to the president. He is internationally known for his work in the marketing of minerals and metals. Right, Ronald Sheardown, resident manager overseeing Alaskan operations. He is widely known as pioneering Arctic flyer who has contributed extensively to the technics of northern transportation and communications.







An example of fluorite ore from the Lost River No. 1 Zone, in which the fracturing is clearly visible. Bulk material such as this has been employed in the massive metallurgical testing at Golden, Colorado.

area in the westernmost part of Alaska. The letter of agreement between the Company and City is reproduced on Page Eight of this report, and may well be regarded as an historic document.

Alaska State Governor William A. Egan in 1972 appointed five independent members to the Council for the City of Lost River, and Mr. John Asplund, a distinguished Alaskan, was named Chairman and Acting Director. The City will now independently pursue the development of the planned community and its related infra-structural facilities, and the Company's relationship essentially will be that of a customer for electric power, harbor services, etc.

### 1973 SEASON PROGRAM AT THE PROPERTY

A program of 10,000 feet of surface diamond drilling is planned in the coming field season, principally directed towards expansion of ore reserves in the No. 2 Zone. Crews are now on the property. Expansion of reserves in this zone will anticipate the promising outlook for fluorite on world markets.

The No. 2 Zone is closely related to and adjoins south of No. 1 Zone, although it is displaced vertically to some small extent by faulting. The strike is E-W and dip about  $15^{\circ}$  -  $20^{\circ}$  south. It has been outlined by drilling for over 3,000 feet on strike (E-W) and up to 300 feet south down dip, with a true thickness of 50 feet averaging 31%  $\text{CaF}_2$ . It is open down dip and to the east. No tin occurs in it.

Some additional but limited exploratory drilling may also be done on the No. 4 Zone as well.

Grateful acknowledgement is hereby made of the loyalty and enterprise of the head office staff under Mr. H. B. Megill and Mr. P. A. Phillips, the Alaskan operations under Mr. Ron Sheardown, and the engineering and feasibility work and studies of Mr. J. F. McOuat of Watts, Griffis and Ouatt Limited, who functioned as project co-ordinator of all consultants and engineering in the preparation of the Final Feasibility Report on the Company's project at Lost River on the Seward Peninsula in Alaska.

On Behalf of the Board of Directors,

MURRAY WATTS,

President.

Dated at Toronto,  
May 28, 1973.



## **Consultant's Report, 1972-73**

The President and Directors,  
Lost River Mining Corporation Limited,  
Suite 420, 159 Bay Street,  
Toronto, Ontario.

We take pleasure in submitting a review of the progress and conclusions of the final feasibility study now in the process of being completed. Data for this study have been derived from the results of a four-year program from 1969 to 1972, inclusive, involving intensive field work, metallurgical studies, marketing, engineering and environmental investigations, and also preliminary technical investigations pertaining to the City of Lost River.

The project has been divided into two distinct segments — the first involving all matters related to mining, milling, transportation and marketing of the concentrates or beneficiated products, and the second dealing with the community and its infra-structure, including such facilities as the sea-dock, electric power and its distribution, heating, fresh water, sewage disposal, roads, airfield, etc.

Under its agreement with the Corporation, the City of Lost River has undertaken development of the community and infra-structure, and the conclusions reached in this report are based upon the concept that the City will meet its responsibilities.

### **DIAMOND DRILLING**

Ore reserves and ore potential established to date are based on a total of 68,851 feet of surface diamond drilling, distributed through the Nos. 1, 2, and 4 Zones. Of this 57,676 feet, including 18,814 feet in the 1972 field season, were completed on the No. 1 Zone. This also included a program of 4,234 feet NQ core drilling to obtain a representative sample of that part of the zone that is scheduled for mining during the first ten years of production.

Previously, there had been 12,250 feet of core drilling by the U.S. Geological Survey on Nos. 1, 2 and 4 Zones, and a major mining company had completed 5,201 feet in 1965 on the No. 1 Zone, checking tin potential. The overall total on properties now held is 81,814 feet.

The NQ holes were spaced between previous holes, and between surface pits from which bulk samples were obtained for the metallurgical program.

This drilling provided positive confirmation of the tons and grade which may be anticipated through the first ten years of production at the projected initial rate. In all, 5,240 lbs. of this NQ core were selected as a bulk sample, and this is being subjected to laboratory and pilot plant testing.

### **SAMPLING AND ASSAYING**

During 1972, all drill core samples were assayed for fluorite on site by Skyline Laboratories. These were re-assayed in Denver by Skyline for fluorite and also tin and tungsten. The on-site procedure was introduced in 1972 to speed up interpretation and correlation of data. Virtually all previously analyzed tin-bearing samples were re-assayed in 1972 by the Colorado School of Mines Research Institute for further confirmation.

Bulk samples were taken from seven locations within the No. 1 Zone and a total of 182 tons was shipped to the Colorado School of Mines Research Institute at Golden, Colorado, for metallurgical testing. The sample locations were based on detailed analysis of mineralogy and grade, in order to obtain a representative spectrum of all parameters that might influence the metallurgical process. This was in addition to the 84-ton bulk sample taken the previous year.

### **ORE RESERVES**

#### **Open Pit Reserves — Zone No. 1**

Years	Tons	CaF <sub>2</sub>	Sn	WO <sub>3</sub>	Waste: Ore Ratio
0 - 5	6,748,037	20.9%	0.22%	0.03%	1.45 to 1.0
0 - 20	27,070,054	16.31%	0.15%	0.03%	0.95 to 1.0

Ore Reserves in Zone No. 2 have not changed and stand at 3,811,000 tons 30.33% CaF<sub>2</sub>.



A large geological potential for additional tonnage has been indicated by means of limited drilling, sampling and geological mapping in the Nos. 2 and 4 zones. A proposed 10,000-ft. drilling program for the Nos. 2 and 4 zones to be carried out in the forthcoming season is expected to add to ore reserves. An excellent geologic potential exists for the development of further reserves in the seven known zones along a strike length of six miles of favourable structure.



## METALLURGY

Extensive metallurgical research initiated in 1969, chiefly on fluorite processing, has been continued, and in 1972 embraced a major program of research and testing at the Colorado School of Mines Research Institute. During 1972, this work included 645 individual bench scale laboratory tests plus 85 pilot plant runs. This program is continuing.

Fluorite recoveries in excess of 85% of the contained fluorite have been obtained consistently in the laboratory, while pilot plant recoveries of 80% have been established to date. Of the fluorite recovered, from 65% to 80% has been in the form of acid grade (97%  $\text{CaF}_2$ ) and the balance is a high grade metallurgical product (80%  $\text{CaF}_2$ ). These results compare favourably with earlier projections of 85% recovery, of which 75% would be acid and 25% metallurgical grade.

Pilot plant tin and tungsten programs have given recoveries of from 50% to 55% in a concentrate grading approximately 35% tin and 7% tungsten. While these recoveries are as previously projected, work is continuing, seeking further improvement in the circuits and recoveries.

## CAPITAL COSTS

With the possibility that certain final metallurgical results, along with minor design changes, may make relatively small adjustments necessary, capital costs for the mining and milling complex are estimated at \$50 million. This is exclusive of working capital requirements, but includes allowance for inflation at a rate of 7% annually, contingency allowances, financing costs and pre-production interest charges.

This estimate is slightly in excess of the previous estimate due to the effect of continuing inflation, redesign of the plant permitting up to 80% of production in the form of a high-grade metallurgical briquette, and major redesign and expansion of the tin-tungsten circuits.



A distinguished Alaskan, John Asplund, was named Chairman and Acting Director of Lost River City in 1972. Other Council Members are Byron I. Mallott, Pearce M. Walsh, Martin Olson and Emmitt Wilson.

Mr. Murray Watts, President,  
LOST RIVER MINING  
CORPORATION LIMITED.

Dear Mr. Watts:

Thank you for the opportunity to address your shareholders.

As stated in the letter of agreement of Dec. 4, 1972, with your company, the City of Lost River has undertaken to provide normal municipal facilities for your industry, other enterprises, and the residents of the City. We intend to meet our responsibilities.

The City has occasioned a full review of the project by the State Government, and has retained a large independent consulting group, Pacific Architects & Engineers, Inc., of Anchorage and Los Angeles, to carry out three assignments — planning the town, and estimating costs; preparing a feasibility study in such areas as dock, power and water; and preparing a cost-benefit study, developing a financial plan including the evaluation of sources of capital.

All this is scheduled for completion by May 31, 1973.

In addition, we have made application to the Corps of Engineers to function as Lead Federal Agency in the preparation

of an Environmental Impact Statement. Further, many meetings have been held with the Alaskan Congressional Delegation at Washington, and useful discussions have been held with senior officials of various Federal agencies.

On behalf of the City Council and myself, I would like to express our gratitude for the assistance you and Lost River have provided us in the granting and loaning of funds, the supply of excellent technical material and the very obvious spirit of co-operation. Without these we could not have advanced as far as we have, and we hope to be able to become more self-sufficient, financially and technically, in 1973.

We look forward to working with you in unlocking the great wealth of Arctic Alaska.

Best regards,

JOHN M. ASPLUND,  
Acting Director and Chairman.

May 9, 1973.



Provision is also now being made in estimates for enlarged storage facilities. The change introduces more flexibility in regard to the scale of operations or shipping schedules.

### **OPERATING COSTS**

Subject to possible minor changes resulting from design revisions, and also to final agreement between the company and the City of Lost River as to costs of services and taxes, the estimate of operating costs per ton milled at a daily rate of 4,000 tons is \$6.90 during the first five years of operation.

Significant price increases and the effect of inflation generally have led to this estimate being higher than earlier estimates, along with the establishment of increased fuel requirements involved in 80% of production being in briquette form, and in increased reagent consumption in the metallurgical process as it is established to date.

The only other major change in operations is that mining is now being projected on a 12-month annual basis rather than the 9-month period previously projected.

### **FLUORITE MARKETS**

Independent market investigations by the consultants have involved discussions with U.S. consumers and mineral merchants, and inspection and review of competitive products. Incontra Limited of Zurich has also independently conducted European market investigations. One of the major Japanese trading corporations continues to supply data regarding Japanese industry requirements and marketing opportunities. These investigations have paralleled and supplemented those of Lost River Mining's staff.

In spite of alternative processing methods now reportedly being developed in the aluminum industry, which may reduce the rate of growth of fluorite consumption for this portion of the acid trade, these collective studies indicate a growing demand and a large available market, both short and long term, in the hydrofluoric acid industry. Of particular interest is the willingness of the U.S. steel industry to use and pay for the effective units of fluorite in a high grade (85%-95% fluorite) metallurgical briquette.

Market studies have established that medium and long-term contracts, incorporating price escalation clauses, are acceptable and practised in the various acid and metallurgical grade markets.

### **TIN-TUNGSTEN MARKETS**

The sale of tin-tungsten concentrates, either in bulk or separately, is relatively easily arranged and a number of smelters have stated their willingness to enter into long-term contracts.

### **REVENUES**

Based on pricing and specifications quoted by a cross section of fluorite consumers, tin smelters and mineral agents, current revenue projections indicate that the \$50 million capital investment indicated at this point can be returned within a five-year period if all cash flow is allocated to capital pay-back.

At the time of writing, the final computerized financial evaluation of the project is not complete, but any possible minor changes should not greatly affect the conclusions presented in this summary.

### **AERIAL PHOTOGRAPHY, SURVEYING, MAPPING**

All of the Lost River area was photographed in black and white and also in colour at a scale of 1,000 feet = 1 inch. Black and white photography was obtained by the Alaska Division of Highways over the 29-mile road route to Teller. Teller is connected to Nome by State highway.

Ground control of a high accuracy was established over the entire area of the property and the City by Alaskan surveyors. This control was established to meet all Alaskan State standards, and was tied into the State grid system. Detailed ground control was also established as needed for photogrametric production of topographic maps. Maps at 200 feet = 1 inch, with five foot contours, were prepared over all of the areas where construction is contemplated. In addition, ground surveys were conducted over key facility areas and topographic maps prepared at a scale of 50 feet = 1 inch, with two foot contours. All drill holes, test pits and other principal locations were surveyed and tied into the new control.

To facilitate mapping and regional test work, a light helicopter was employed during the 1972 field season.





THE CITY OF LOST RIVER

Lost River, Alaska

December 5th, 1972

The President and Directors,  
Lost River Alaska Corporation,  
c/o Suite 420, 159 Bay Street,  
Toronto, Ontario  
Canada

Attention: Mr. Murray Watts  
President

Gentlemen:

During the November 10, 1972 meeting with the Lost River Mining Corporation, the City Council of the City of Lost River made clear its position with respect to a transfer of \$300,000.00 from the Corporation to the City to cover the costs of starting and maintaining City operations and planning for the first annual period.

It is the intent of the City to provide within its jurisdiction those services which are normally considered municipal services. In addition, the City intends to provide the construction and operation of the Town, its services and infrastructure. The aforesaid municipal responsibilities, for example, normally include among others the following: heat, power generation and their distribution, water supply and distribution, sewers, marine terminal and associated facilities, transportation, communications, police and fire protection, education, health, housing, etc. In any event, the nature and extent of the services will be determined by the Council, but will be commensurate with its statutory obligations, and, as previously mentioned, will meet the norm in providing municipal services.

Also, the City intends to facilitate the early and continuing development of the Development City of Lost River along lines presently drawn. Consideration shall be given, however, to periodic evaluations of state and federal agencies involved, and to its independent evaluation. As has been mentioned several times, in those areas which are City jurisdiction (in which it must answer to the people) the City will exercise sole authority. At all times it seeks the advice and participation of the

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Page 2:

Corporation for it wishes to develop from the outset an atmosphere of trust and cooperation under which to operate. In this regard, as you are aware, the Council has appointed your Vice-President, Mr. R. C. Sheardown, as Executive Co-ordinator for the City and the Council looks forward to his cooperation and liaison.

The Council confirms to you that it is only the Corporation's officers, directors and financiers who shall make the sole determination of the feasibility of the mining project, the scale and timing of the mining project as defined to cover mining, milling, transportation and marketing of mineral products.

At this time, therefore, the City gives approval to the Corporation to continue with all work presently under way, in order that development of the City not be delayed. This consent shall not commit the City to approval of any portion of the Development City project, either heretofore conceived, or planned during this period, and this approval is subject to Council decision at any time.

The \$300,000.00 is to fund the City's first annual operations, and accompanying this letter is a copy of the proposed budget. Payments are to be made to the City of Lost River, the first payment to be made immediately upon concurrence with this letter, to be in the amount of \$50,000.00 addressed or delivered to my office: the balance to be paid to the City offices in even instalments as follows: February 1, 1973, May 1, 1973, August 1, 1973 and November 1, 1973. All monies contemplated by this letter, whether paid over or scheduled for payment are to be the property of the City of Lost River in that they are public monies, and all monies scheduled for payment shall be paid over on the dates above listed, provided, however, that the Corporation may discontinue, and not have to pay over scheduled payments not made, if the City evidences its decision not to proceed further with the project, or if, in the opinion of the Corporation, the services to be performed or the functions proposed to be fulfilled by the City or economic projections are so altered that further support of the development city is not conducive to the overall success of the mining project, in which event all monies theretofore paid would remain the property of the City and would not be recoverable by the Corporation. If the Corporation decides to discontinue with or to abandon the mining project, or to delay the development of the mining project, the Corporation shall pay to the City an

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## SITE, MATERIAL AND ENVIRONMENTAL INVESTIGATIONS

This was a multi-discipline activity. Weather records were developed at several stations in the project area. Hydrological studies included measurements of drainage basins, water flow measurements in streams, and long-range analyses of regional precipitation data.

Soil conditions were tested by drilling and test pitting in all of the proposed facility locations, usually including the appraisal of two or more alternate sites. Determinations were made of overburden depths and characteristics by diamond drilling, soil borings, test pitting and seismic surveys. Mine and City of Lost River facility and site locations studied included dock, townsite, roads, plant sites, dam sites, airfields and mill tailings area.

Rock mechanic and pit slope studies were undertaken in the proposed Zone No. 1 open pit and also in several locations being appraised as a source for the fill, causeway and armour rock needed for the marine terminal.

Throughout the course of the field season, specialists in soils, rock mechanics, marine biology and sedimentation acquired both regional and local on-site data. A biologist recorded all flora and fauna in the area. Consultations were held on site and elsewhere with State and Federal agencies involved with the environmental aspects and also with environmental engineering specialists. Water sampling programs were conducted on site and in the metallurgical laboratories and pilot plant, in order to establish re-cycling standards, environmental background and mill processing effects.

## SOCIO-ECONOMIC

There is a population of approximately 10,000 people in the Seward Peninsula. The Company intends to recruit the bulk of its employees from among these people. Consequently, the Department of Labour for the State of Alaska as well as the Bureau of Indian Affairs and the Native Corporations have been cooperating with the consultants in planning pre-job training, particularly at similar-type mines in Northern Canada. The Socio-Economic surveys were conducted to establish the attitude of these people by interviewing, in depth, a broad cross-section of the possible employees at the various communities. This survey is of great benefit in community planning and job specification.

A number of government agencies, both Federal and State, provided a much-appreciated level of cooperation and assistance in furthering the project, and the efforts and technical expertise of the consulting firms and individuals who contributed is gratefully acknowledged.

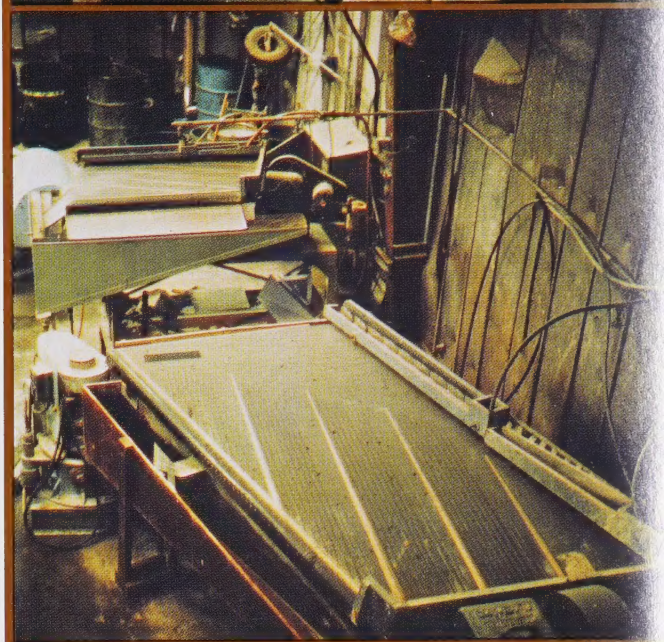
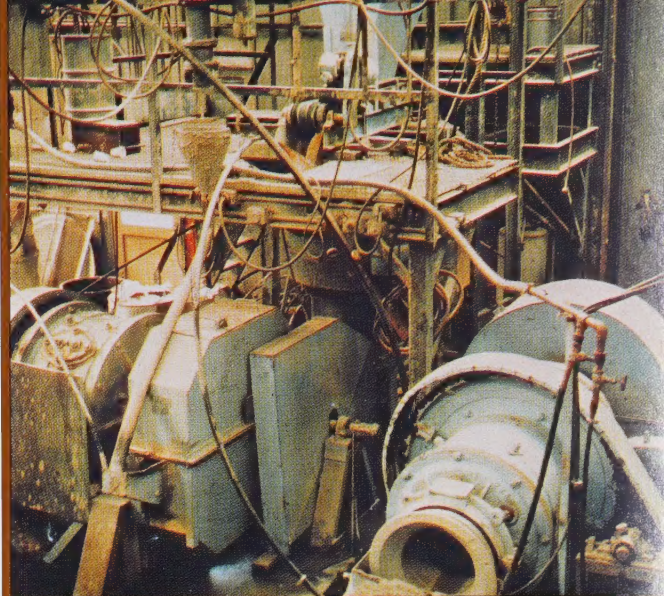
Yours very truly,

*Jack F. McOuat*

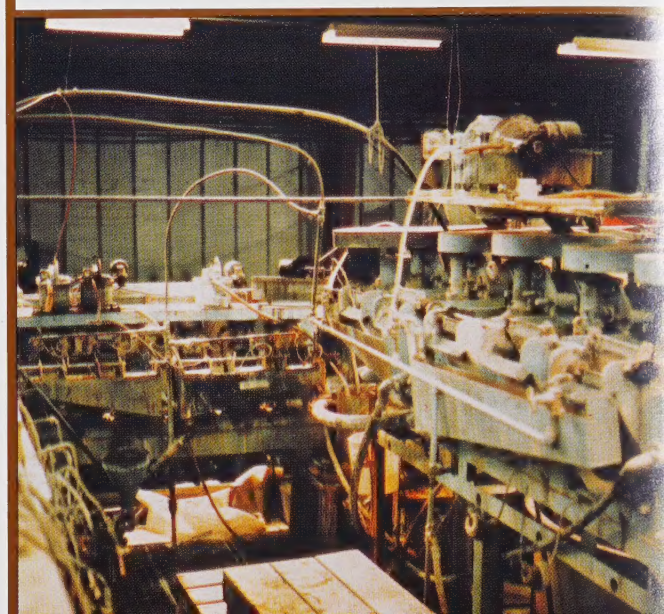
Vice-President,

Watts, Griffis and McOuat Limited

Dated at Toronto, May 23, 1973.



Some views of the pilot plant testing facilities at the Colorado School of Mines Research Institute, Golden, Colorado. Top, the ball mill and classifier circuit. Middle, Deister tables, employed in tin recovery. And bottom, a bank of flotation cells in the fluorspar circuit.





## *Principal Technical Contributors*

<b>Acres</b>	Site and soil testing Hydrology Tailings dam Water supply Road Airstrip
<b>Carr &amp; Donald &amp; Associates Ltd.</b>	Marine Terminal Concentrate storage and loading receiving facilities inbound cargo
<b>AirPhoto Tech</b>	Aerial photography Topographic mapping
<b>Dickenson-Oswald &amp; Partners</b>	Survey control Topographic mapping
<b>Bauer &amp; Associates</b>	Rock mechanics Open pit Slope stability
<b>Captain T. C. Pullen</b>	Arctic shipping and Ice conditions
<b>Weather Engineering Corporation of Canada Ltd.</b>	Appraisal long term weather conditions, storms and waves
<b>Dr. Wheeler J. North</b>	Marine biology
<b>Dr. J. W. Johnston</b>	Oceanographic factors
<b>Mr. M. Lenarz</b>	Assessment of flora and fauna on site and regionally
<b>United States Department of Agriculture</b>	Soils survey
<b>Dr. P. Sainsbury</b>	Geological consultation
<b>Colorado School of Mines Research Inst.</b>	Metallurgical testing, mineralogical studies, process planning
<b>Battelle Memorial Institute</b>	Metallurgical testing, analytical work
<b>Lakefield Research of Canada Limited</b>	Fluorite process metallurgy
<b>Bartles-Mozley</b>	Tin recovery circuit
<b>R. Komarek Inc.</b>	Briquetting investigations
<b>Scrivener Engineering</b>	Process plant design and costing
<b>Sinoski and Turner</b>	Oil storage and power plant design
<b>Walter Dow &amp; Associates</b>	Electrical—power plant and process plant
<b>Marine Chartering</b>	Investigation of inbound and outbound marine cargoes
<b>German &amp; Milne U.S. Coastguard</b>	Marine transportation studies Assistance concerning establishment of tide datum
<b>Alaska Consultants Inc. &amp; Rowan Group</b>	Socio-Economic studies
<b>CCH/HOK</b>	Architectural planning
<b>R. Retherford &amp; Associates</b>	Electrical distribution
<b>Crewes, MacInnes &amp; Hoffman</b>	City Services
<b>Skyline Laboratories</b>	Assay Services



amount equal to the value of the outstanding financial obligations which the City has incurred to that date for which the City has not previously received payment from the Corporation or other sources: in any event the Corporation shall not be responsible for more than the unpaid portion of the \$300,000.00 as referred to herein. Expenditures of all monies contemplated by this letter are the decisions solely of the City, and no accountings thereof, except as required by law, shall be made by the City.

The City intends to use these monies, as stated earlier, to commence the operations of the City. This will allow the City to evaluate work done, to engage the services of necessary consultants or staff, and will trigger the cooperation and performance of the State of Alaska. It is my belief that without such funds with which the City can commence operations, the entire project would be in jeopardy. It is the unanimous view of the Council that the project is desirable and should develop; being able to operate will enable the City to confirm its present thoughts and to make decisions necessary to keep the project going.

In aid of determining whether the public interest will be served by the project, the State has initiated a review by State agencies having responsibility or involvement in various phases of the project. The review is under the direction of the Director of Planning and Research and is currently under way. Upon completion of that review, the Council may determine that further evaluation is required and may employ the services of an independent consultant. It is contemplated that upon receiving the report of the Director of Planning and Research and, if obtained, the report of an independent consultant, the City Council will make a determination whether to proceed with the project. It is expected that such a decision can be reached by January 31, 1973.

Monies contemplated by this letter are not reimbursable by the City to the Corporation. It would not likely be possible for the Corporation to raise the funds necessary to build the mine and the City along the physical and financial lines presently drawn on a regional scale if the Council were not in operation. The Corporation therefore will be using the Council to raise or secure enormous sums of money, at no cost to itself either by way of interest or by way of burdening its credit. The present financial plans call for substantial funding through federal grants, loans, guarantees and bonding programmes which would not be available but for the existence of an organized

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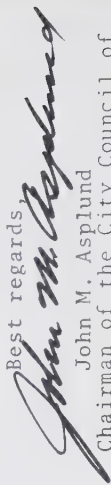
municipality. Additionally, the Corporation is asking the Council to gear up so that the Corporation's timetable may be met; this requires considerable effort, time and expense. Frankly, considering the size of the project, the monies to be secured by the City for building costs, and the profits realizable by the Corporation, the \$300,000.00 is a small amount for the Corporation to be investing as "seed" money; it is an investment that should not go begging. It should be borne in mind that there exists the possibility of obtaining federal or other grants covering some of the items in the attached budget, which grants could make unnecessary the expenditure for those purposes of funds contributed by the Corporation, or which might result in a credit against the Corporation's contributions.

The City recognizes that it shall bear the costs of portions of the work and engineering investigations to date and to be undertaken, insofar as the work relates to the City. It is the intention of the City, after such costs are properly delineated and assigned, to determine with the Corporation methods of assessing such costs.

At this point it would be well to restate the City's intention to review all service contracts and other arrangements presently in force which properly are or will be within the authority of the City, and which result in design or plans affecting the City of Lost River, or which will be a cost to the City. To this end we look forward to meeting with members of the Corporation and with the various consultants presently engaged, or about to be, to discuss their work and their fee arrangements. Likewise, the City will review relationships with Alaska consultants, as they affect the City; this we would like to do immediately, and solicit your assistance in notifying local consultants to contact my office at their earliest convenience.

The City looks forward to years of a close working relationship with the Corporation. It believes this will occur. The above representations have been approved unanimously by the Council; on the Council's behalf,

Best regards,



John M. Asplund  
Chairman of the City Council of  
the City of Lost River, Alaska



LOST RIVER MINING CORPORATION LIMITED  
And Its Subsidiary

## Consolidated Balance Sheet

**AS AT DECEMBER 31, 1972**

With 1971 figures for comparison

### Assets

CURRENT ASSETS	1972	1971
Cash and short term deposits	\$1,552,890	\$ 892,994
Accounts receivable	13,647	9,800
Advances and prepaid expenses	12,715	5,074
	<u>1,579,252</u>	<u>907,868</u>
MINING PROPERTIES — at cost (Note 1)	<u>564,944</u>	<u>512,444</u>
FIXED ASSETS — at cost		
Machinery and equipment	178,828	117,695
Office equipment	19,029	5,180
Camp buildings	35,809	14,560
	<u>233,666</u>	<u>137,435</u>
DEFERRED EXPENDITURES		
Exploration and development	3,675,102	1,398,009
Administrative	447,249	293,238
	<u>4,122,351</u>	<u>1,691,247</u>
	<u>\$6,500,213</u>	<u>\$3,248,994</u>

### Liabilities

CURRENT		
Accounts payable	\$ 437,708	\$ 143,989

### Shareholders' Equity

CAPITAL STOCK (Note 2)		
Authorized		
5,000,000 shares — no par value		
Issued and fully paid		
2,732,505 for cash	5,687,505	2,730,005
750,000 for mining properties	375,000	375,000
	<u>6,062,505</u>	<u>3,105,005</u>
<u>3,482,505</u> shares	<u>\$6,500,213</u>	<u>\$3,248,994</u>

Approved on behalf of the Board:

"R. O. HEDLIN", Director.

"H. B. MEGILL", Director.



LOST RIVER MINING CORPORATION LIMITED  
And Its Subsidiary

**Consolidated Statement  
of Deferred Expenditures**  
**FOR THE YEAR ENDED DECEMBER 31, 1972**  
With 1971 figures for comparison

**Exploration and Development**

EXPENSES INCURRED DURING THE PERIOD

	1972	1971
Assays .....	\$ 42,244	\$ 18,820
Customs charges .....	1,618	2,099
Drafting .....	14,189	8,660
Diamond drilling .....	143,601	263,172
Engineering and consultants fees .....	1,461,082	143,971
Freight .....	86,265	45,333
Fuel and oil .....	17,244	15,493
General .....	28,204	13,143
Aircraft rental and expense .....	110,719	98,380
Staking and surveys .....	24,701	2,321
Camp supplies and maintenance .....	72,065	50,115
Telephone and telegraph .....	12,839	1,973
Travel .....	70,571	39,515
Wages .....	19,248	130,900
Geology .....	24,881	—
Field management .....	27,782	32,789
Equipment rental .....	19,870	6,815
Insurance .....	9,937	1,472
Maps and reports .....	20,866	5,585
Employees' benefits .....	10,081	14,615
Field office rental and expenses .....	14,808	—
Field office salaries .....	9,777	4,800
Payment to City of Lost River (Note 5) .....	50,000	—
	<u>2,292,592</u>	<u>899,971</u>
Less: Gain from insurance proceeds on aircraft .....	15,449	—
	<u>2,277,093</u>	<u>899,971</u>
Add: Balance at the beginning of the period .....	1,398,009	498,038
	<u>\$3,675,102</u>	<u>\$1,398,009</u>

**Administrative**

EXPENSES INCURRED DURING THE PERIOD

Rent and head office services .....	\$ 16,496	\$ 11,240
Interest and bank charges .....	17,521	33,997
General expense .....	12,150	11,193
Professional fees .....	57,042	94,382
Telephone and telegraph .....	18,510	13,578
Transfer agent's fees .....	2,016	3,729
Travel .....	3,750	8,913
Insurance .....	3,613	1,789
Public relations .....	7,370	8,057
Office salaries .....	61,264	62,576
Licences, taxes and fees .....	1,499	6,919
Shareholders' information .....	9,082	13,362
Employees' benefits .....	3,324	3,783
	<u>213,637</u>	<u>273,518</u>
Less: Interest earned on deposits .....	59,626	10,211
	<u>154,011</u>	<u>263,307</u>
Add: Balance at beginning of period .....	293,238	29,931
	<u>\$ 447,249</u>	<u>\$ 293,238</u>



LOST RIVER MINING CORPORATION LIMITED  
And Its Subsidiary

## Consolidated Statement of Source and Application of Funds

FOR THE YEAR ENDED DECEMBER 31, 1972

With 1971 figures for comparison

### Source of Funds

	1972	1971
Sale of capital stock .....	\$3,010,000	\$2,215,000
Less: Commission thereon .....	52,500	45,000
	2,957,500	2,170,000
Sale of fixed assets .....	—	21,328
Insurance proceeds on loss of aircraft .....	68,000	—
	3,025,500	2,191,328

### Application of Funds

Exploration and development expenses .....	2,292,592	899,971
Administrative expenses .....	154,011	263,307
Investment in mining properties .....	52,500	136,418
Purchase of machinery, equipment and buildings .....	96,232	124,519
Purchase of aircraft .....	52,500	—
	2,647,835	1,424,215
Increase in working capital .....	377,665	767,113
Working capital or (deficiency) at beginning of period .....	763,879	(3,234)
Working capital at end of period .....	\$1,141,544	\$ 763,879

### Working Capital represented by:

Current assets .....	\$1,579,252	\$ 907,868
Current liabilities .....	437,708	143,989
Working capital .....	\$1,141,544	\$ 763,879

## Report of the Auditors

To the Shareholders of  
LOST RIVER MINING CORPORATION LIMITED,  
Toronto, Ontario.

We have examined the consolidated balance sheet of Lost River Mining Corporation Limited and its subsidiary as at December 31, 1972 and the consolidated statements of deferred exploration, development and administrative expenses and source and application of funds for the year ended on that date. Our examination included a general review of the accounting procedures and such tests of the accounting records and other supporting evidence as we considered necessary in the circumstances.

In our opinion, these consolidated financial statements present fairly the financial position of the Companies as at December 31, 1972 and the results of their operations and the source and application of their funds for the year then ended, in accordance with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

May 18, 1973,  
Toronto, Ontario.

FULLER JENKS LANDAU,  
Chartered Accountants.



# Notes to Financial Statements

DECEMBER 31, 1972

## 1. (a) Mining Properties

Under an agreement dated June 1, 1970 the Company acquired from Pan Central Explorations Limited, all its interest in an agreement covering an option to purchase 36 mining claims in Alaska and all mining plant, buildings and equipment located thereon, together with 220 mining claims staked by Pan Central in the same area, in consideration for the issue of 750,000 treasury shares and \$40,000 cash in reimbursement of expenditures.

In addition to \$170,000 (U.S.) principal paid under this option to December 31, 1972 and in order to maintain the option in good standing the Company is required to make the following payments together with interest at 6% per annum payable annually from January 15, 1971, to be paid concurrently with each principal option payment:

- (i) \$ 50,000 (U.S.) on or before  
January 15, 1973
- (ii) \$100,000 (U.S.) on or before  
January 15, 1974
- (iii) \$100,000 (U.S.) on or before  
January 15, 1975
- (iv) \$220,000 (U.S.) on or before  
January 15, 1976

- (b) Under an agreement dated December 1, 1970, the Company acquired an option to purchase 6 patented mining claims in Alaska. The Company has paid \$10,500 under this agreement to December 31, 1972 and is required to make a further payment of \$2,500 on or before October 1, 1973 to keep the option in good standing.

During the currency of the working option, the Company is required to complete \$10,000 (U.S.) worth of work in each of the years ending October 1, 1971, 1972 and 1973 on the said mining claims. The necessary work commitments have been completed for 1971 and 1972.

On completion of work commitments and option payments, the Company will have the right to purchase these mining claims on or before October 1, 1974 for \$125,000 (U.S.) payable \$25,000 on or before October 1, in each of the five years 1974 to 1978.

- (c) Investments in mining properties consists of the following:

Value assigned by directors for 750,000 shares issued for initial payment on option agreement on 256 claims in Cape Nome Recording District, State of Alaska	\$ 375,000
Subsequent cash payments covering option payments in 1 (a) and (b) above and staking costs on new claims, all in the State of Alaska	189,944
	<u>\$ 562,944</u>

- 2. (a) Capital stock has been issued during the year as follows:

	1972		1971	
	Shares	Amount	Shares	Amount
For cash	902,500	\$3,010,000	830,000	\$2,215,000
Less: Commissions paid thereon		52,500		45,000
		<u>\$2,957,500</u>		<u>\$2,170,000</u>

- (b) Subsequent to the Balance Sheet date, Pan Central Exploration Limited purchased 50,000 shares of the Capital Stock of the Company at a price of \$5.25 per share by way of a Private Placement.

- (c) The consideration received for shares issued by the Company during the year, caused the total consideration received for all shares to exceed the total authorized by the Articles of Amendment. Subsequent to the balance sheet date, a resolution was passed by the directors and filed with the necessary regulatory authorities increasing the authorized aggregate consideration for which the shares can be issued from \$5,000,000 to \$10,000,000.

## 3. Stock Options

- (a) Pursuant to a stock option agreement dated February 23, 1971, the Company issued 500,000 of its treasury shares in 1972, at a price of \$2. per share.
- (b) During 1972, 2,500 treasury shares of the Company were issued at a price of \$4. per share, pursuant to an employee incentive, stock option granted in 1971. The options on 27,500 shares remaining under this plan lapsed.

During the year, an additional 20,000 un-issued shares of capital stock of the Company were set aside as an employee stock option plan. An option on 15,000 of these shares was granted to the President of the Company, exercisable at a price of \$4.75 per share to April 1, 1975, only so long as he remains with the Company.

## 4. Subsidiary Company

A wholly-owned subsidiary, Lost River Alaska Corporation was formed in 1971, under the Laws of the State of Alaska. The accounts of that corporation have been consolidated with Lost River Mining Corporation Limited for these financial statements. The accounts of the U.S. Company have been converted to Canadian funds at par.

- 5. By agreement dated December 5, 1972 Lost River Alaska Corporation agreed to provide the City of Lost River, \$300,000 to fund the City's first annual operations. \$50,000 was paid on signing of the agreement and the remaining \$250,000 is to be paid in four instalments of \$62,500 each on the first day of February, May, August and November of 1973. The Company may discontinue payments if the City evidences its decision not to proceed further with the project or the Company decides that to proceed with the project is not conducive to the overall success of the mining project. All monies paid to such time would remain the property of the City. If the Company decides to discontinue, abandon or delay the mining project, it shall pay to the City any unpaid financial obligations at that date but only to the extent of the \$300,000.

In addition to the above, the Company has expended a total of \$611,713, which is



## Notes to Financial Statements (Cont'd)



directly related to the planning and establishment of the City of Lost River and its facilities. These costs have been recorded as engineering and consultants fees on the statement of deferred exploration and development expenses.

The City is under no obligation to repay any of the above \$611,713 or any payment made under the agreement for \$300,000.

Subsequent to the balance sheet date, the City of Lost River requested the Company to advance an additional \$135,000, which the directors have approved but which will be subject to terms not yet completed.

6. By an agreement dated August 9th, 1972, between the Company and Incontra Limited of Zurich, Switzerland ("Incontra"), the Company appointed Incontra its sole and exclusive sales representative in Europe for the sale of specified products obtained from its mining operations, commencing from the date of the agreement for a period of six years next following the date of full production, on a commission basis with a minimum commission of \$100,000 (U.S.) per year payable for the first full five years of production.

By the terms of this same agreement, Incontra purchased 100,000 shares of the capital stock of the Company.

### 7. Comparative 1971 figures

Some of the 1971 exploration and administrative expenses have been restated to make them comparative with similar items in 1972. The 1972 wages were distributed to the expense account to which they relate and as a result the 1972 exploration and development wages paid are not comparable with 1971. Commissions paid on issues of capital stock of the Company, have been stated as a reduction from the proceeds of the sale of the capital stock, rather than as a deferred expense as previously stated.

### 8. Remuneration to Directors and Senior Officers

The aggregate direct remuneration paid to directors and senior officers including the five highest paid employees amounted to \$71,094 for the year ended December 31, 1972.

### 9. Subsequent events

Subsequent to the Balance Sheet date, the directors approved the purchase from Pan Central Explorations Limited of 636 mining claims in Alaska, adjoining the claims presently owned by Lost River Mining Corporation Limited. The consideration to be 90,000 shares of the capital stock of the Company, valued at \$5 per share.

Aside from extensive (more than 60,000 ft.) diamond drilling, drill rigs were used for soil testing as part of the all-important environmental impact studies that were an integral segment of all engineering and evaluation work. A typical drill set-up is seen below, left. Right, a bulldozer builds a loading ramp to the beached barge.





Below, an entire diamond drilling rig with its support equipment trailing behind on a sled is moved to a new location at the mine site. Front cover, top, an ocean-going barge at the Lost River harbour site, taking on some 100 tons of bulk sample material being shipped to Denver for the metallurgical research program. Bottom, C-130 Hercules aircraft unloading at the mine site in the spring of 1972, launching the year's field program.

